

Fig. 1
(Prior Art)

Reference electrode - keeping fixed potential

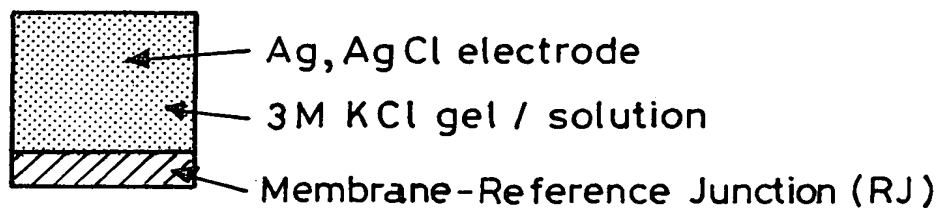
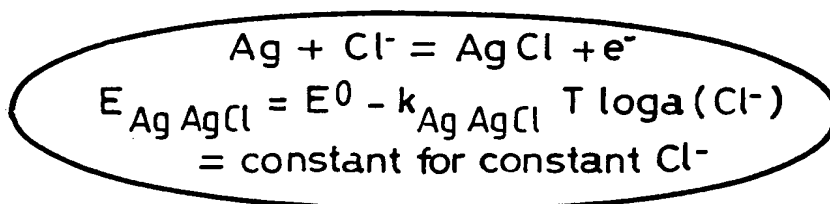


Fig. 2
(Prior Art)

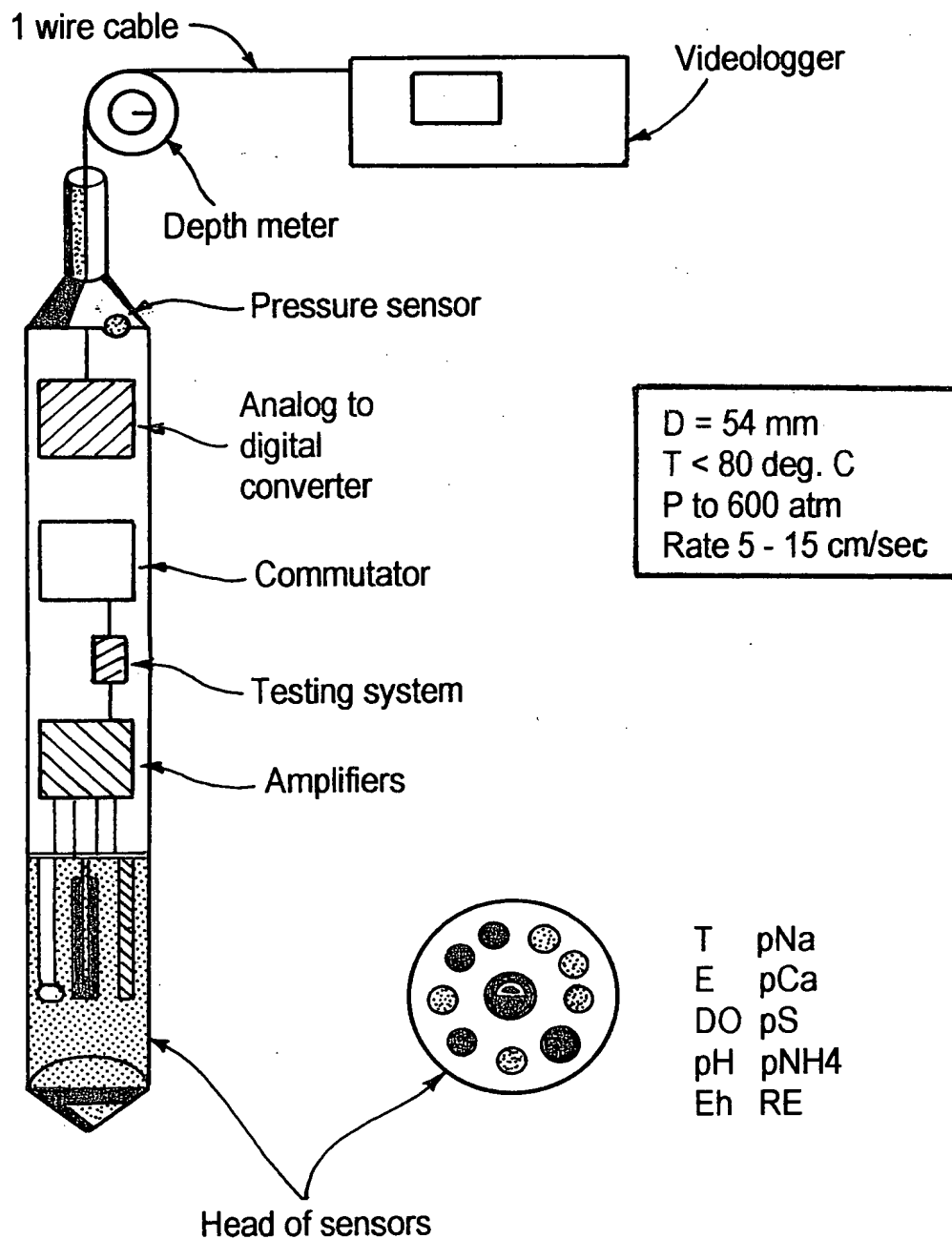
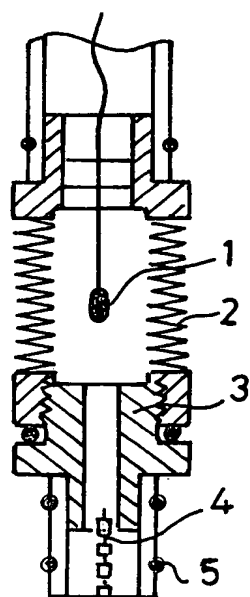
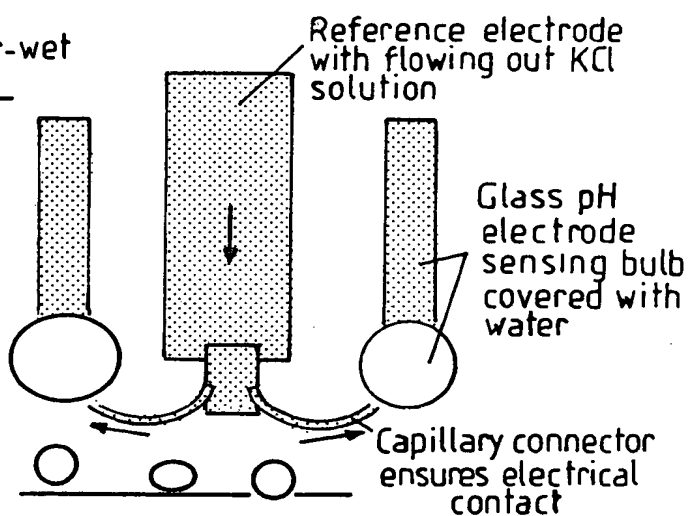
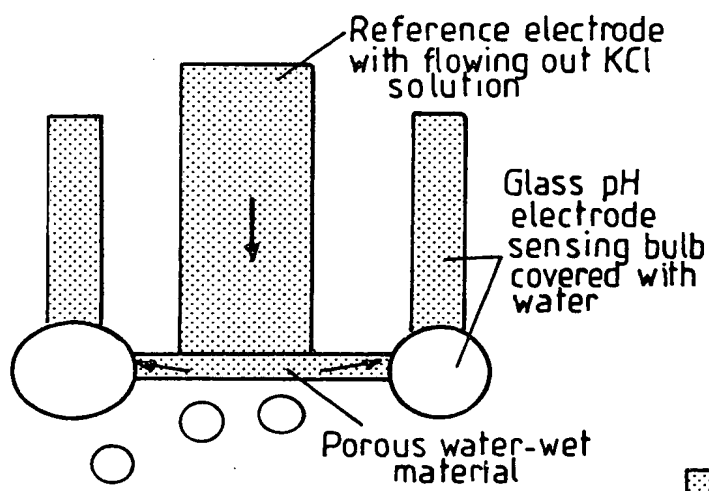
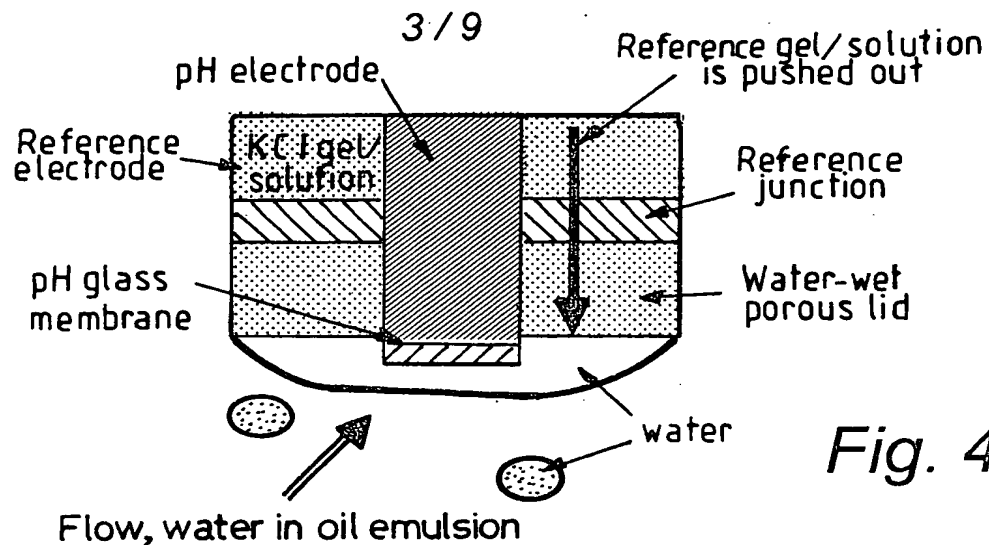


Fig. 3
(Prior Art)



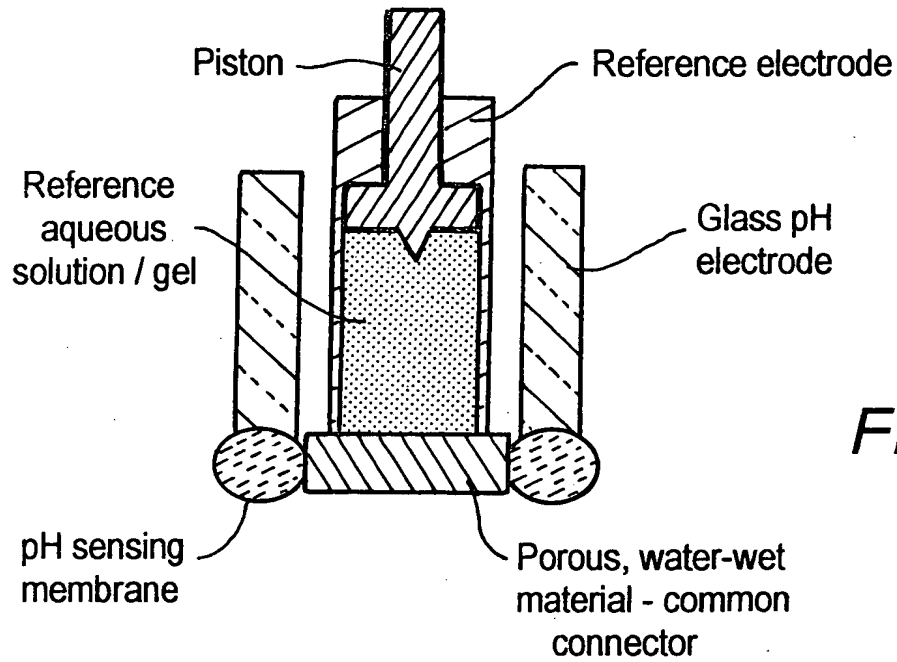


Fig. 7

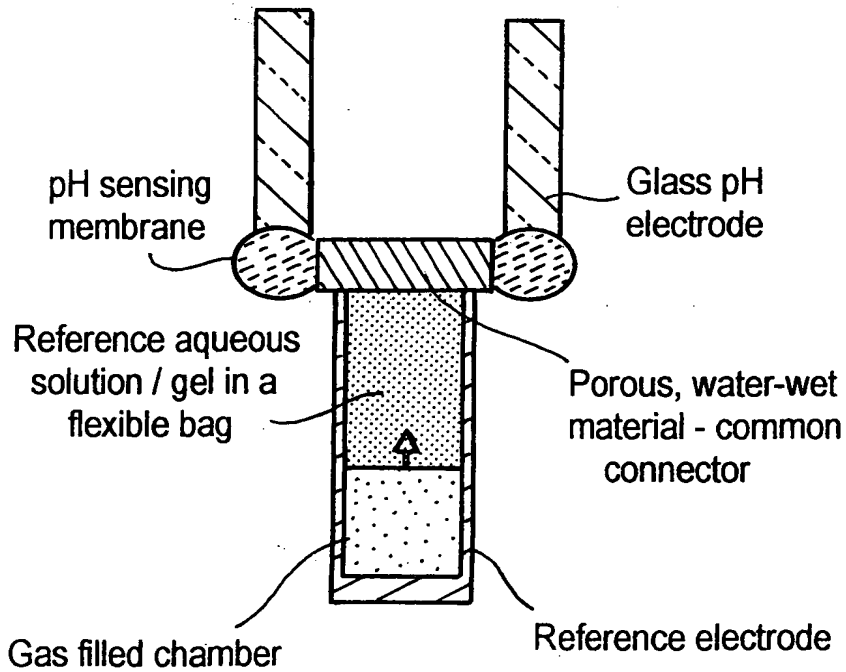


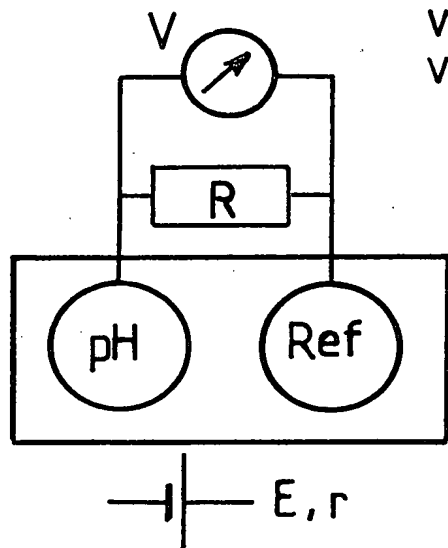
Fig. 8

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$$r = r(\text{pH}) + r(\text{Ref}) + r(\text{oil} + \text{water})$$

V - signal without R

V_R - signal with R



$$r = R * [(V - V_R) / V_R]$$

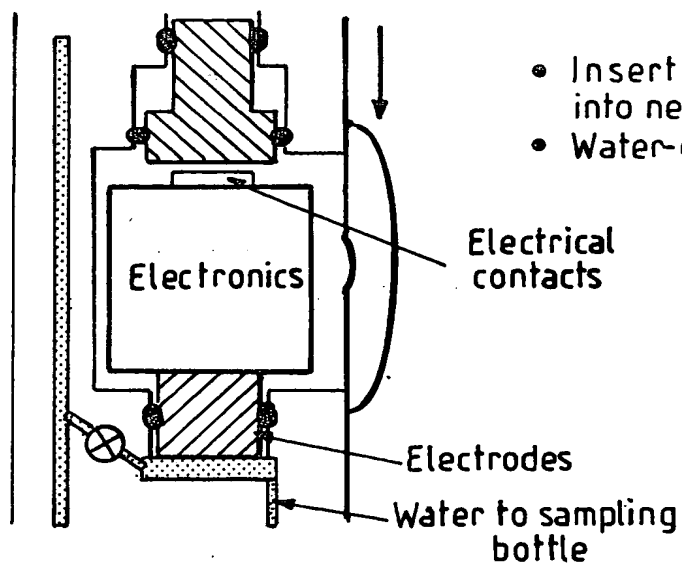
Good contact =>

$(V - V_R)$ in water =

$(V - V_R)$ in oil / water mixture

Fig. 9

New sensor design for MDT



- Insert mini Probe into new sampling module
- Water-only analysis

Fig. 10

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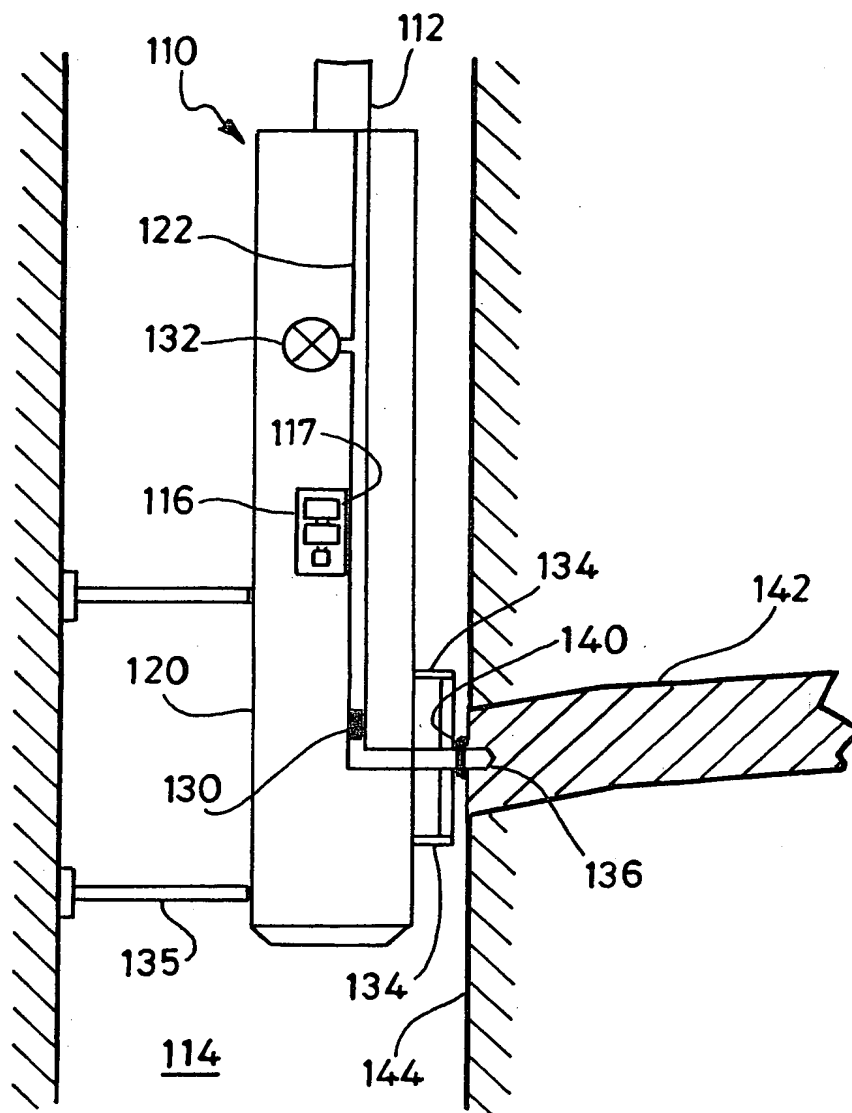


Fig. 11

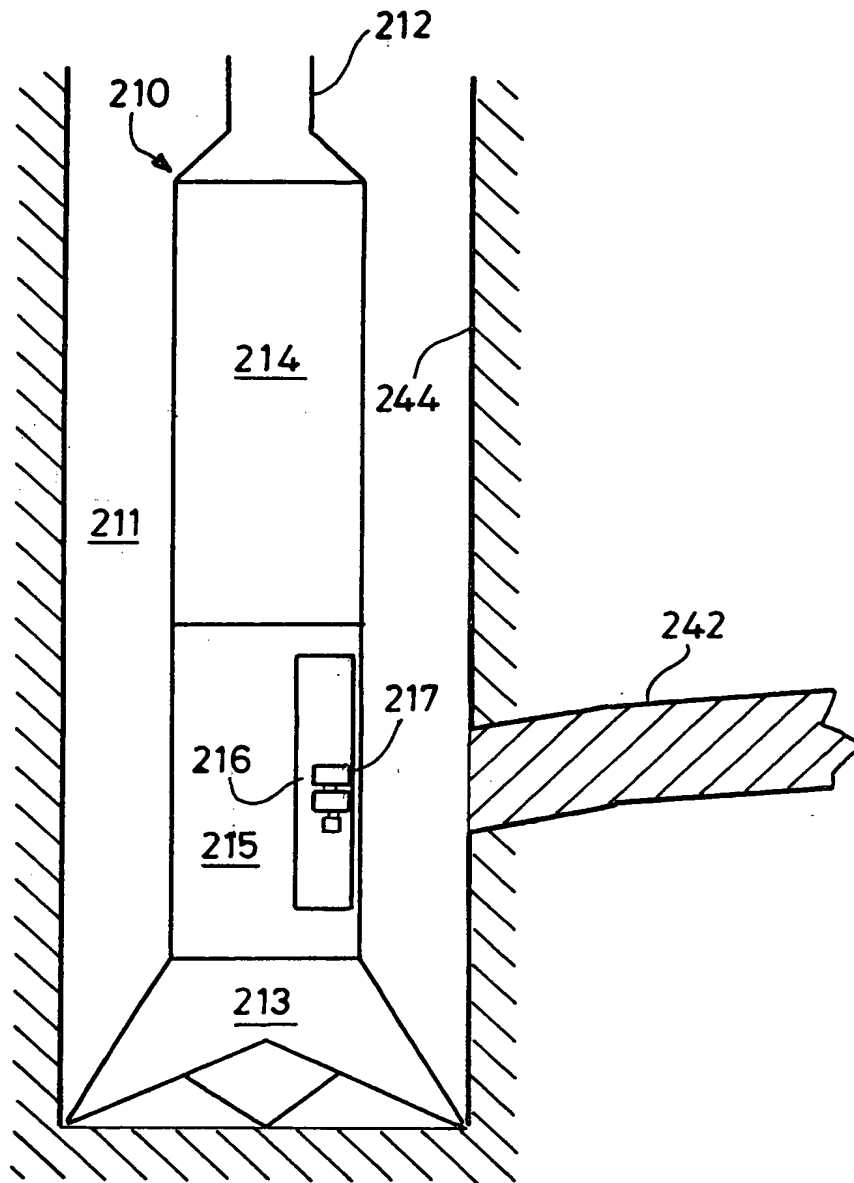


Fig. 12

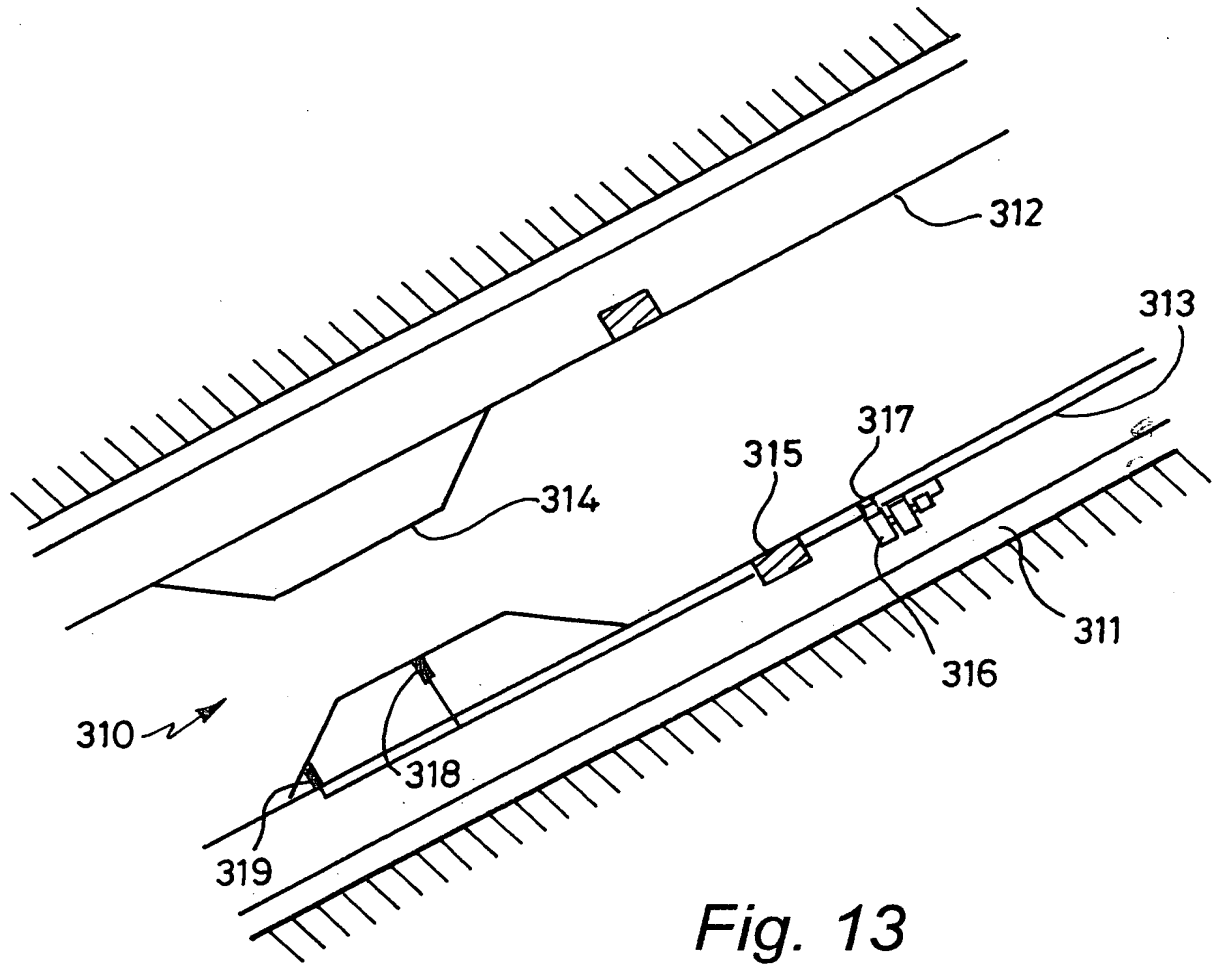


Fig. 13

FIG. 13

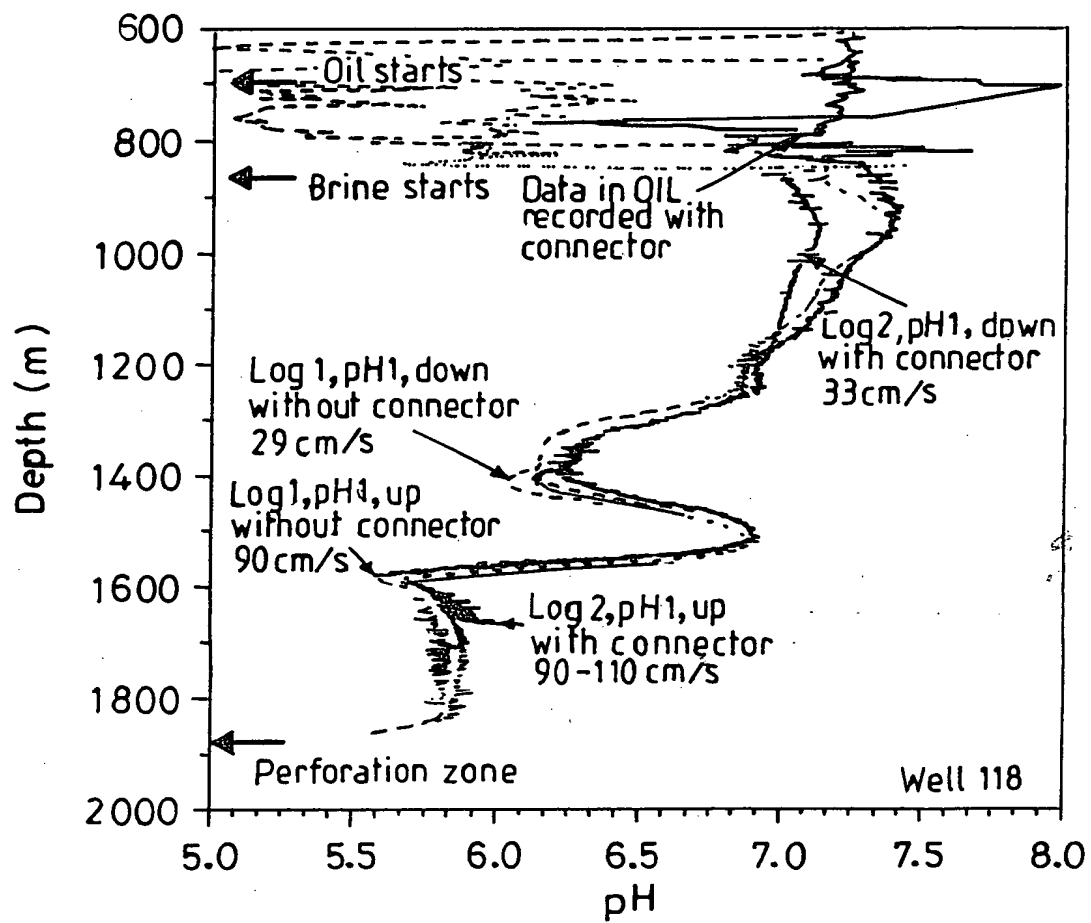


Fig. 14